## REMARKS

1) The Examiner has rejected claims 1 and 3-20 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully submit that this ground of rejection has been overcome by the instant amendment. Claims 7, 8, 10, 11, 13, 15, and 17 have been cancelled to remove duplication issues. Claim 1 has been clarified to remove the term "moldedly" and state that the alloy powder or alloy wire rod are solidified "via heat and pressure". Support for this amendment can be found in the originally filed specification, for example at page 7, lines 5-9 and page 10, lines 19-20. Corresponding changes have also been in claims 4 and 9. Claim 18 which was dependent on cancelled claim 2 has been amended to depend from claim 4. Claim 20 has been amended to depend from claim 9. For the above reasons, it is respectfully asserted that the 35 U.S.C. 112 rejection has been overcome by the instant amendment, and should be withdrawn.

2) The Examiner has rejected claims 1 and 3-20 under 35 U.S.C. 103 over Krotz et al. (US 5,915,160) in view of Newkirk et al. (US 5,007,476). Applicants respectfully submit that this is not the case. It is noted that claims 7, 8, 10, 11, 13, 15, and 17 have been cancelled as stated above.

The present invention relates to oxide-dispersed alloys. Specifically, the presently amended claims provide a manufacturing method for an oxide-dispersed alloy in which dispersed particles comprising oxides of one or two or more kinds of additive metals are dispersed in a matrix metal, comprising the steps of:

(a) manufacturing an alloy powder or an alloy wire rod comprising a matrix metal and an additive metal;

(b) oxidizing the additive metal in the alloy powder or alloy wire rod with water to form dispersed particles by introducing the alloy powder or alloy wire rod into an attritor with water, and by agitating the alloy powder or alloy wire rod therein; and

(c) solidifying the alloy powder or alloy wire rod via heat and pressure, after oxidation.

An important feature of the invention, as presently claimed, is the requirement to use a an attritor as a means of oxidizing an alloy powder with water.

Regarding Krotz, the Examiner again asserts that this reference teaches each feature of the present invention except the use of water in a ball mill. Applicants respectfully submit that Krotz further fails to teach a key feature of the present invention. That is, while Krotz teaches the use of a "ball mill" in general, they <u>do not</u> disclose the use of an attritor as presently required, which is selected to achieve the desired oxidation of an additive metal with water. The Examiner states that the ball mill of Krotz "would appear to meet the definition of an attritor." Applicants strongly disagree. It is well known in the art that generic ball mills and attritors are "quite distinct" (see enclosed document, "High Energy Ball Milling", Union Process Inc.). The Examiner takes the position in his Advisory Action that since the enclosed document originates from a company that sells attritors and other types of mills, they cannot provide an "objective scientific comparison" between the two. Applicants dispute this assertion, and submit that not only does this document provide an accurate comparison between attritors and other types of mills, but further that this document serves as a clear and accurate example of the general knowledge in the art of such attritors versus generic ball mills. Specifically, attritors are well known in the art for use in high-energy applications, for which generic ball mills are unsuited. Several differences are *known in the art* to exist between these attritors and conventional ball mills. For example, conventional ball mills turn the entire drum or tank containing the media and the material, while attritors stir the media in a stationary tank with a shaft and attached arms or discs resulting in a more efficient use of energy for the milling process. Conventional ball mills are closed systems which do not offer the advantages of an attritors, which can take samples at any time and make formulation adjustments during high-energy ball milling. Further, attritor tanks are all jacketed which allows for more precise temperature control during such high-energy ball milling (see again "High Energy Ball Milling", Union Process Inc.). The present invention uses an attritor for pulverizing and mixing a raw powder. While Krotz does relate to a method of producing a dispersion strengthened material, the generic ball mill used by Krotz is not

capable of such a pulverizing and mixing of materials. It should be noted that the high-energy attritor employed by the present invention adds an extremely higher gravitational acceleration to an interior raw powder and grinding medium than a general ball mill is capable of. In order to generate such a high gravitational acceleration, the present invention optimizes the structure for enabling a stirrer to rotate at high speeds and employs a robust container. Additionally, the present attritor not only pulverizes and mixes raw powder but it also kneads a part of the pulverized powder well into another powder to mechanically prepare an alloy. In this regard, a generic ball mill has no such function. It is submitted that one skilled in the art would *clearly* be able to ascertain the differences between generic ball mill and attritors as instruments, as well as the strategic considerations taken into account when choosing between the two for various operations.

Applicants urge that the desired oxidation of the alloy powder is achieved by the use of an attritor, which exhibit *strong* stirring power used for stirring with water as the present claims require. Since such machinery is not taught or suggested by the cited reference, it is submitted that one skilled in the art would not have been inspired to formulate the present invention upon consideration of Krotz.

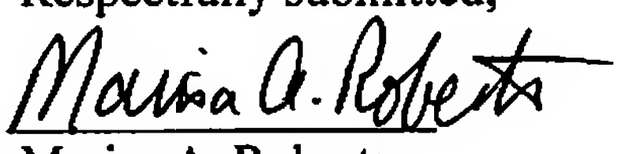
The Examiner further cites Newkirk, stating that it would have been obvious from the teachings of Newkirk to pour water into a ball mill. Applicants first submit that Newkirk also relates only to the use of generic ball mills, and fails to teach the use of an attritor, which is capable of high-energy applications. It is urged that Newkirk fails to cure the defects of Krotz, wherein each reference fails to achieve the desired result of the present invention due to their failure to use the above required machinery. Regarding Newkirk's use of water, Applicants urge that there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, No. 04-1350, 2007 WL 1237837 at 13, 82 U.S.P.Q.2d 1385, 1396 (Apr. 30, 2007) (*citing In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329 (Fed. Cir. 2006)). It is submitted that no such support is provided in this case. First, the water used by Newkirk is merely a *dispersing* medium, for dispersing an oxidized metal matrix complex. In contrast, the present invention introduces water as a *supply source of oxygen*, for

oxidizing the metal. The Examiner states that Newkirk introduces water into their mill for the purpose of oxidizing their materials. However, it is urged that the oxidized metal matrix complex of Newkirk contains metal which is *already oxidized*. This directly teaches *away* from the present claims. Furthermore, Newkirk specifically states that they control the pH of their solution during ball milling, to purposely *reduce* any oxidation reaction with the water in their ball mill (see Example 1, column 33 lines 57-62). Thus, it is urged that the motives of Newkirk as they relate to the addition of water are clearly different from those of the present invention. Applicants therefore submit that an artisan having common sense at the time the invention would *not* have reasonably considered using water in Krotz as a source of oxygen for oxidizing their metal, based on the teachings of Newkirk which teach just the opposite. It is further submitted that a combination of Krotz and Newkirk would still fail to obviate the present claims, since neither reference teaches or suggest the use of an attritor at all. For the above reasons, it is respectfully urged that the 35 U.S.C. 103 rejection should be withdrawn.

Provided with Applicant's paper of September 15, 2009 was a Supplemental Information Disclosure Sheet, Form PTO-1449, along with a copy of the document listed thereon. Applicants acknowledge that this document has been formally considered by the Examiner, as noted in the Advisory Action.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the Examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



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